

Fusing Audio and Semantic
Technologies for Intelligent Music
Production and Consumption
or
FAST IMPACT
FAST for short.

but in a nutshell it's really about multi-modal metadata
and what you do with it in an end-to-end digital
ecosystem.

our chosen digital ecosystem is
MUSIC

music

- above all is something people really care about, and this team share a vision and a passion for
- it's a multi-sensory experience: which means that music information systems are multi-modal
- is commercially vital to this country, with the UK being the world's 2nd largest music exporter
- and it's important culturally: music is everywhere:
 - in our shops, our churches, even our transportation systems
- it's used for almost everything we do: relaxing, for thinking, for romance, for exercise, for emotional and intellectual stimulation
- importantly, it is routinely born-digital
- which makes music a great paradigm or metaphor for other media, other data and metadata, especially when they are heterogeneous and multi-modal

which is why we consider this project to be a **grand challenge**

- we see **FAST** as a way to explore several areas of increasing importance in our information society in a way that reaches all sorts of demographics, all sorts of researchers
- we will address issues in:
 - Big Data (processing, navigation, interpretation, visualisation),
 - Linked Data & Semantic Web,
 - Cloud (especially Real-time),
 - Knowledge Representation & Processing, Knowledge Fusion
 - User experience, including beyond the visual,
 - Tools for Creativity
- wrapping them up in an impact-friendly way that politicians, funders, industry, and above all ordinary people, can immediately latch onto

so what is our vision?

- that semantic technologies, especially linked metadata and all it brings, offer transformative potential to media production and consumption
- end to end from the studio to the sofa, and the studio on the sofa!
- and that it reaches people throughout the value chain - from professional musicians and record producers, through highly skilled pro-ams, through to amateur musicians, music consumers, broadcasters, impresarios
- imagine how easy it could be for a talented amateur composer to record and produce her own songs, and have one licensed by a film-maker who discovered it through a semantic music service, another played on BBC 6 Music which now automatically links through to her Wikipedia page, and Facebook profile, and another track whose guitar lick is used by Snow Patrol for which she earns **more** royalties
- some of this is possible today, but it's not joined up!!
- the answer is the widespread adoption of semantic linked metadata, and the tools and services to support them
- we are really talking a future in which multi-modal, multi-sensory music systems with audio, video, scores, lyrics, all semantically linked together deliver deeply engaging experiences with music

to deliver this we bring together 3 research groups

- in music, musicology and signal processing
- in semantics and workflows
- and in social computing and HCI
- it's a new team
 - but with a tremendous track record of working on successful projects, individually, collectively, with the various partners, often the same partner having worked with different team members

and we have lots of partners

- as well as the ones in the proposal that bring: massive content, expertise in DSP, cloud, Information Retrieval, social computing broadcast, standards and more, we have added
- Abbey Road studios, as a source of knowledge on recording studio practice, and direct contact with artists and producers
- Martyn Ware: of Heaven 17 & Human League musician, record producer, 3D sound artist
- Solid State Logic, the iconic recording studio manufacturer of the 80s, bringing expertise in recording studio technology and usage
- and there are plenty of others we talk with regularly on existing and previous projects, that we aim to bring into the mix

we believe that this project is of major national importance to UK plc

- help maintain UK's stellar reputation for
 - quality of music
 - quality of production technology
 - musical innovation: like semantic effects, 3D composition
 - quality of its research and innovation
- to generate a quiet revolution in music production
- stimulate a whole new business eco-system around music consumption

and in the wider ICT research landscape

- we point out how this proposal has its roots in an EPSRC workshop in October 2010 on *ICT Research: The Next Decade*, via an EPSRC network + grant, on Semantic Media
- we point out its fit to EPSRC's strategic themes
 - Working Together
 - Digital Economy: New Economic Models, IT as a Utility, Communities & Culture
 - Intelligent Information Infrastructure
- it addresses a long list of ICT Research Areas, including
 - Digital Signal Processing, HCI, Music & Audio Technology, Information Systems, Vision, Hearing and other Senses, Artificial Intelligence, Mobile Computing, ICT Networks and Distributed Systems, Databases

looking beyond music as an application

- we foresee that our research has the potential to transform the arts and entertainment industries
- and deliver ground-breaking new deep research in knowledge and information engineering
- and other disciplines through our Research in the Wild and Mode 2 research approaches
- and be a living laboratory for all the disciplines involved, maybe even for social scientists too

i'd like to finish by saying that

- this team has come together through a shared vision of the future of music
- in a nutshell, that is “better music”
 - better conception, freeing the composer to explore musical concepts without technological straight jackets
 - better production, freeing the engineer, producer and musicians to concentrate on musicality and performance
 - better choice, whether that is by a professional DJ or consumer in their home
 - better delivery, the right information for THAT user context
 - better consumption, to deliver better user experience
- we are confident that we can deliver all this - and more - and we hope to persuade you to agree